CLAIMS

1. A high-voltage discharge lamp operating device comprising:

a DC power supply circuit which increases the voltage of a DC voltage source using a switching element, smoothes and outputs the voltage;

a full-bridge circuit which converts the DC voltage output from said DC power supply circuit to an AC voltage and operates the high-voltage discharge lamp continuously;

a high-voltage pulse generation circuit which generates a high-voltage pulse to be superimposed on the AC voltage signal output from said full-bridge circuit for igniting said high-voltage discharge lamp; and

a switch changeover signal control circuit which outputs a PWM control signal for controlling the duty of a signal waveform so as to extend an ON-state period of said switching element when igniting said high-voltage discharge lamp and shorten the ON-state period of said switching element during normal operation,

characterized in that said switch changeover signal control circuit is provided with oscillation frequency control means for controlling the frequency of said PWM control signal so as to realize a high frequency for a predetermined period from the ignition of said high-voltage discharge lamp and a low frequency after the lapse of said predetermined period.

2. The high-voltage discharge lamp operating device according to claim 1, characterized in that said oscillation frequency control means comprises a switching frequency signal generation section which generates a rectangular wave having a frequency corresponding to a time after the ignition of said high-voltage discharge lamp and an oscillator which converts the rectangular wave from said switching frequency signal generation section into a triangular wave or sine wave.

3. The high-voltage discharge lamp operating device according to claim 1, characterized in that said DC power supply circuit comprises a flyback circuit and said switching element is constructed so as to control the current flowing through a primary winding of the booster transformer of said flyback circuit.

4. The high-voltage discharge lamp operating device according to claim 1, characterized in that said switching element is an FET.

5. The high-voltage discharge lamp operating device according to claim 1, characterized in that said high frequency is approximately 200 KHz and said low frequency is approximately 100 KHz.

6. The high-voltage discharge lamp operating device according to claim 1, characterized in that said predetermined period is approximately 10 sec.

7. The high-voltage discharge lamp operating device according to claim 1, characterized in that said high-voltage discharge lamp is a light source for a head light of a vehicle.